

PIN11 **A RETROSPECTIVE EVALUATION OF THE MANAGEMENT AND OUTCOME IN HOSPITALIZED PATIENTS WITH COMMUNITY ACQUIRED PNEUMONIA IN AN INNER-CITY HOSPITAL**

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Community-acquired pneumonia (CAP) is a common and serious illness. Analyses of administrative data show that large variations exist in admission rates, length of hospital stay, and use of institutional resources. **OBJECTIVES:** This study evaluated the medical management of patients hospitalized with Community Acquired Pneumonia (CAP) in an urban inner-city public hospital. The study was undertaken to identify areas for quality improvement. **METHODS:** A retrospective chart review was used to collect data on patients admitted to the hospital with a diagnosis of CAP during the period January 1, 2003 to April 30, 2004. Data were collected based on American Thoracic Society (ATS) criteria. **RESULTS:** Medical records of 155 patients were reviewed; overall mortality rate was 4%; 80% of patients received their first antibiotic dose in less than eight hours; 97% of patients had their oxygenation checked within 24 hours of admission. Only 45% of patients had at least one culture performed prior to initiation of antibiotics. The most commonly prescribed antibiotic was levofloxacin, representing 39% of all antibiotic orders. Using the ATS guidelines, 14 (9%) patients were considered to have received inappropriate antimicrobial treatment. Of these patients, 7 had severe cases of CAP requiring admission to an intensive care unit (ICU). The average length of stay for all patients was 7.64 days (SD + 0.327). Patients who received an antibiotic regimen that covered both typical and atypical organisms, as compared to those who did not, had a shorter length of therapy (7.33 days vs. 9.79 days, $p < 0.05$). **CONCLUSION:** Ongoing analysis of inpatients with CAP will provide information to evaluate improvement of clinical outcomes and to identify areas of focus for future performance improvement activities.

PIN12 **ASSESSMENT OF THE EFFECT OF DROTRECIGIN ALFA (ACTIVATED) TREATMENT OF SEVERE SEPSIS ON BLEEDING EVENTS WITH COUNT MODELS**

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OBJECTIVES: To evaluate the effect of drotrecogin alfa (DA) on bleeding events in patients with severe sepsis and multiple organ failures. **METHODS:** A pre-post design was conducted before and after DA's market introduction. An optimal propensity score matching method was undertaken to control for unbalanced characteristics. Several models were tested to explain the number of bleedings events. The more usual ones are the Poisson and the negative binomial (NB) models. Contrary to the NB model, including a dispersion parameter, the Poisson model supposes the mean equals the variance. An alternative consists on modeling separately the probability of experiencing at least one bleeding (with a binomial model) and the number of bleeding events (with a count model). Double-hurdle models suppose that, once a threshold has been exceeded, patients experience at least one bleeding event. In zero inflated models, both models can predict an event absence. Non-nested models were compared with the Vuong statistic. **RESULTS:** The matched sample includes 840 patients. Bleeding events were experienced by 17.6% of patients,

13.6% in the before and 21.7% in the after phase ($p = 0.0021$). The mean number of bleedings was higher in DA treated patients (0.28 against 0.18, $p = 0.0208$). The standard NB model fitted better than the double-hurdle NB model ($p < 0.0001$) and was similar to the zero-inflated NB model ($p = 0.6815$). We kept the NB model, the simpler one. Moreover, the dispersion parameter was significant ($p = 0.0013$), favouring the NB to the Poisson model. In this multivariate model, patients in the after phase were still more at risk of experiencing bleeding events. Other risk factors included the presence of a central catheter infection and a high LODS score. **CONCLUSIONS:** DA use in addition to the conventional treatment leads to more bleeding events. In our study, over-parameterised models did not bring more information than simpler ones.

PIN13 **SYSTEMATIC REVIEW ON THE SHARE OF ANTIBIOTIC THERAPY COST IN RELATION OVERALL DIRECT TREATMENT COSTS OF MOST FREQUENT NOSOCOMIAL AND COMMUNITY ACQUIRED INFECTIONS IN ADULTS**

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OBJECTIVES: To evaluate the share of antibiotic therapy cost in total treatment costs for nosocomial and community acquired infections. **METHODS:** Systematic literature search (1996–2003) using the major online databases and additional manual search yielded 1211 references (selection Ia). Studies were divided up to 11 different diagnostic groups that were considered to be most relevant (selection Ib). Inclusion and exclusion criteria were applied for the selection Ic. Study quality was assessed with a consolidated quality score comprising 23 questions. A study was assessed as “qualified” for further analyses, if at least 50% of maximum points were achieved in a review conducted by two independent reviewers. This resulted in the selection of 44 studies (selection II) that were subject to a detailed metaanalysis. **RESULTS:** The percentage of antibiotic costs in relation to total direct costs was low: nosocomial pneumonia ($N = 3$, 1.4–13.7%, SD: 5.5), respiratory tract infections ($N = 2$, 10–24.8%, SD: 5.3), community acquired pneumonia ($N = 14$, 0.64–57.84%, SD: 24.65), chronic bronchitis ($N = 6$, 1.1–66.66%, SD: 17.19), urinary tract infection ($N = 3.5$ –33.82%, SD: 14.85), intraabdominal infection ($N = 2$, 3.2–19.38%, SD: 5.26), surgical prophylaxis ($N = 2$, 0.1–83.8%, SD: 33.02), otolaryngological infections ($N = 4$, 14.18–60.1%), STD ($N = 1$, 0.15–3.3%, SD: 2.23), *Helicobacter pylori* infections ($N = 3$, 2.34–45.49%, SD: 16.36), *Clostridium difficile* infections ($N = 3$, 0.07–1.20%, SD: 0.51). **CONCLUSIONS:** This review showed that costs of antibiotic treatment were low compared to overall direct treatment costs for most frequent infections regardless of the differences in design and quality of studies. The experience from this review may also contribute to further development of evidence-based guidelines for conducting pharmacoeconomical studies.

PIN14 **IMPACT ON QUALITY OF LIFE OF HEALTH STATES INDUCED BY CHRONIC HEPATITIS B INFECTION: ESTIMATES FROM INFECTED AMERICANS**

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OBJECTIVE: An estimated 1.25 million Americans are chronically infected with hepatitis B virus, many of whom develop severe and potentially fatal liver diseases. Despite the high prevalence and serious health consequences, little is about the impact on quality of life of disease states resulting from chronic HBV infection. The objective was to estimate preferences (ratings and utility weights) for six hepatitis B-related disease states among infected persons. **METHODS:** Utility weights for six disease-related health states were elicited from a sample of 56 patients chronically infected with HBV in San Francisco using a standard gamble. Probability wheels with 2-color pie charts for the relative probabilities of perfect health and death were employed as props. **RESULTS:** The mean age was 51y (standard deviation: 12, range: 20 to 77y) and 77% were men. Mean utilities were: 0.72 (95% confidence interval: 0.68; 0.79) for chronic hepatitis B; 0.70 (0.65; 0.77) for compensated cirrhosis; 0.42 (0.35; 0.47) for decompensated cirrhosis; 0.48 (CI: 0.40; 0.52) for hepatocellular carcinoma; 0.62 (0.56; 0.67) in the first year after liver transplant; and 0.72 (0.65; 0.77) after first year post-transplant. **CONCLUSION:** These utility values, the first published on patients in the United States, indicate that health states resulting from chronic HBV infection substantially lower patients' quality-of-life. These preferences (utility weights) for health states can be incorporated into many aspects of medical decision making, including summary measures of health related quality of life, monitoring population health, bedside clinical decision making, and in technology assessment. For all health states, the utilities collected here were lower than published estimates that are based on clinicians opinion.

PIN15

IMPACT ON QUALITY OF LIFE OF HEALTH STATES INDUCED BY CHRONIC HEPATITIS B INFECTION: ESTIMATES FROM UNINFECTED AND INFECTED PERSONS IN THE UK
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OBJECTIVE: Although the incidence of the hepatitis B virus in the UK is low, persons with chronic infection can develop severe and potentially fatal liver diseases. The objective was to estimate preferences (ratings and utility weights) for six hepatitis B-related disease states among uninfected and infected persons. **METHODS:** Three hepatologists characterized the typical effects of symptoms on health-related quality of life. Standard gamble (SG) utility weights for six disease-related health states were elicited from a sample of 100 uninfected persons and 87 patients chronically infected with HBV in the UK. Probability wheels with 2-color pie charts for the relative probabilities of perfect health and death were used as props. **RESULTS:** The mean age of patients was 43y and 46y for uninfected persons; and 57% and 47% were men, respectively. For patients and uninfected persons, respectively, mean SG utilities were: 0.77 (95% confidence interval: 0.71; 0.81) and 0.82 (0.78, 0.85); for chronic hepatitis B; 0.73 (0.65, 0.77) and 0.83 (0.80, 0.87) for compensated cirrhosis; 0.34 (0.25, 0.39) and 0.36 (0.30, 0.42) for decompensated cirrhosis; 0.36 (0.28, 0.41) and 0.46 (0.39, 0.52) for hepatocellular carcinoma; 0.56 (0.49, 0.62) and 0.71 (0.65, 0.76) in the first year after liver transplant; and 0.67 (0.59, 0.73) and 0.82 (0.78, 0.86) after first year post-transplant. **CONCLUSION:** These utility values, the first published on patients or uninfected persons in the UK, indicate that health states result-

ing from chronic HBV infection substantially lower patients' quality-of-life. The mean SG utilities were systematically lower for infected than for uninfected persons. These preferences for health states can be incorporated into many aspects of medical decision making, including summary measures of health related quality of life, monitoring population health, bedside clinical decision making, and in technology assessment.

PIN16

MEDICAL COSTS ASSOCIATED WITH NON-ADHERENCE TO ANTIRETROVIRAL THERAPY IN HIV-POSITIVE PATIENTS

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OBJECTIVES: To compare the direct health costs of HIV-positive patients reporting sub-optimal intake of antiretroviral therapy (ART) with those of patients reporting full adherence. **METHODS:** 546 subjects from the Italian multicenter observational study ICoNA (Italian Cohort Naive Antiretrovirals) were followed between 1997 and 2004. Non-adherence to ART was assessed by a self-administered questionnaire. Medical costs incurred by the National Health Service were calculated retrospectively as from first ART and expressed in constant 1997 prices. **RESULTS:** Mean time on ART was 5.75 years (range 1.04–7.77); mean HIV-RNA and CD4 cells at baseline were 4.75 log₁₀ copies/ml (range 1.3–6.6) and 307/μl (range 0–1309). Non-adherence was reported by 197 (36%) patients, who showed a higher number of new AIDS-defining events ($p = 0.01$), of detectable viremia episodes ($p < 0.001$), and of ART changes ($p = 0.01$). Overall medical costs and ART costs per year were on average €6392 (range €555–€42,183) and €5373 (range €537–€35,582), respectively, and did not significantly differ between the two groups. Annual inpatient costs were higher in the non-adherent group (€432; 95%CI €256–€608) than in the adherent group (€198; 95%CI €127–€269; $p < 0.005$). On multivariate linear regression, higher HIV-RNA, lower nadir and baseline CD4, fewer ART changes, and interaction between low adherence and number of therapy switches were independently associated with higher log-transformed ART costs per year. Older age, HCV co-infection, sub-optimal ART adherence, lower CD4 nadir, and higher baseline CD4 were independently associated with higher annual inpatient costs, based on multivariate tobit analysis. **CONCLUSIONS:** Non-adherence is common among HIV-positive patients and is associated with virological failure, disease progression, more frequent hospitalizations and treatment changes. Total and ART costs do not seem to be significantly affected by non-adherence, probably because of switches to simpler and less expensive treatment options, whereas inpatient costs are significantly increased by sub-optimal drug intake.

PIN17

COST-EFFECTIVENESS ANALYSIS OF ENFUVIRTIDE ADDED TO AN OPTIMISED THERAPY VS. AN OPTIMISED THERAPY ALONE IN PATIENTS WITH H.I.V./AIDS

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OBJECTIVE: To analyse the efficiency of adding Enfuvirtide (ENF) to an Optimised Therapy (OT) in HIV patients who are